Pest Update (November 18-25, 2009)

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E-samples

Our unusual autumn weather is playing havoc with our trees and shrubs. Much of the state experienced a cool to cold and wet October followed by a drier and warmer November; it was almost as if Mother Nature got the months reversed! This weather pattern altered many of our outdoor activities – including harvesting crops – and it also altered some of our woody plant's normal responses during this season.

Woody plants need to begin the process of dormancy during the autumn as a preparation for winter. There are two forms of plant dormancy, eco- and endo-.

Eco-dormancy is a condition where the plant becomes dormant, growth ceases, in response to environmental conditions such as drought or cool weather and once that condition become more favorable for growth, it resumes. Endo-dormancy is our typical winter dormancy. This is more complex than eco-dormancy with a number of different triggers or benchmarks to achieve dormancy and come out of dormancy in the spring.

The process of endo-dormancy is triggered by photoperiod. As the nights become longer in autumn, woody plants begin the process of preparing for winter. The second trigger for achieving dormancy is exposure to cold weather, more specifically the number of freeze/thaw cycles in the fall as the plant needs to experience temperatures below freezing to trigger this deeper level of dormancy but also have warmer temperatures to allow the biological activities of dormancy to occur. Once this second stage of dormancy is completed, woody plants are prepared for winter.

Exiting dormancy in the spring also relies on triggers, though different ones than for entering. Most woody plants have to be exposed to a certain number of hours of temperatures below 45^{o}F before they will begin to exit endo-dormancy and then with warmer weather and longer days, eco-dormancy ends and growth begins.

This autumn we had our cold weather in October and then it warmed, enough to confuse some woody plants. I have had reports from a number of areas in the state of trees and shrubs breaking bud and beginning to flower and even leaf out in response to the warmer November weather. Most of these ornamental plants are not native; ash and oaks are not as easily fooled, while roses and magnolias are. This may result in some injury to many of our exotic ornamental plants since they still had tender tissue when cold winter weather finally arrived in much of the state this week.

There is not much that can be done to help the confused plants that are flowering and leafing out, in fact probably nothing should be done at this time. However, expect to have to prune out some significant winter injury in the spring on some plants while others may just have fewer flowers – only time will tell.

Junipers are also turning color, but this is normal for autumn. I had a couple of calls and Jerry in Brown County sent in a picture of a juniper that a homeowner was concerned about the color change. Many junipers have a color change as they enter the winter. Eastern redcedars (*Juniperus virginiana*), Chinese junipers (*J. chinesis* syn *J.* x *media*) and Savin (*J. sabina*) all can develop yellowish brown foliage, not that

attractive but they will green up again in the spring. Creeping juniper (*J. horizontalis*) and Rocky Mountain juniper (*J. scopulorum*) can turn almost purple and this can even be pretty.

Samples received

Perkins County (conservation district) **This is a spruce in Lemmon that was transplanted at about 10-12 feet two years ago. The older needles are turning brown and falling.**

This is normal for a larger transplanted tree; it may take three or four years for a tree this size to recover, particularly a spruce in the harsh environment of Lemmon. I doubt if this has anything to do with the irrigation water though I have seen salt toxicity on seedlings in your region. The best approach is to continue to water the trees next summer – all summer if it is dry – and place mulch beneath them.